SEQUENCE LISTING

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_	_			_	_			_			Leu					
			20					25					30			
cac	tcc	agg	agc	tct	tcg	ggt	gag	aca	ccc	gct	cag	сса	gag	aag	acg	144
His	Ser	Arg	Ser	Ser	Ser	Gly	Glu	Thr	Pro	Ala	Gln	Pro	Glu	Lys	Thr	
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Ser	Gly	Met	Glu	Val	Ala	Ser	Tyr	Leu	Val	Ala	Gln	Tyr	Gly	Glu	Gln	
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Ser	Leu	Cys	Ala	Gln	Ala	Gln	Glu	Gly	Ala	Gly	His	Ser	Pro	Ser	Phe	
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		gca Ala 115	-		_					_	_	_			_	384
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		cgc Arg														480
	_	tcc Ser		-					-	_					-	528
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_		gca Ala 195		_		_		_							_	624
_	_	acg Thr							_		_	_	_		-	672
		tca Ser							-	_			-		_	720
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		aac Asn 275											_			864

_	_	caa Gln	_												912
		cga Arg													960
		acc Thr													1008
		aag Lys 340													1056
		ctg Leu													1104
		ctg Leu													1152
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		cgg Arg	-					_		_	-	-			1248
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Glu	Arg	Gln		Ile	Arg	Ala	Phe	_	Leu	Val	Lys	Ser		Lys	Glu	
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a+ a	+~~	~~~	a+~	+~+	a++	~+~	~~~	+~~	~+~	+ 00	+ ~ ~	at a	~~~	+~~	201	1584
		-	_	_		gtg Val						-	_	_		1304
пса	115	515	нси	Cys	БСС	vai	520	тър	vai	501	112	525	7110	Cyb	1111	
		010					020					323				
tgc	ctg	atg	cag	cag	atg	aag	cgg	aag	gaa	aaa	ctc	aca	ctg	act	tcc	1632
Cys	Leu	Met	Gln	Gln	Met	Lys	Arg	Lys	Glu	Lys	Leu	Thr	Leu	Thr	Ser	
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гуѕ	пте	595	цец	ASP	СТУ	Ala	600	ire	ser	1111	rne	605	гЛг	мес	GTÀ	
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_, _	y	9	~ - y	645		~ C L		-,-	650		P			655		
														_		
cta	gaa	gca	tat	gga	ata	cat	ggc	ctg	ttt	ggg	gca	tca	acc	aca	cgt	2016
Leu	Glu	Ala	Tyr	Gly	Ile	His	Gly	Leu	Phe	Gly	Ala	Ser	Thr	Thr	Arg	
			660					665					670			
							Λ									

		_		-		-	_				-	gag Glu 685				2064	
			_		_		_				_	atg Met			_	2112	
_		_	_	_	_	_	_				_	gag Glu				2160	
_	_							-		_		caa Gln			_	2208	٠
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	-			-				•	_			aag Lys 765	_		_	2304	
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		_	_	_			_		_	_		tgt Cys	_		-	2496	
												gct Ala 845		_		2544	
												ctg Leu		_		2592	

-	ctg acc		ı Asp					-			2640
	aaa cac Lys His	_									2688
	ctg cag Leu Gln 900	Leu Va	-								2736
	gcc tct Ala Ser 915										2784
	cag aac Gln Asn		_								2832
	agg cat Arg His		a Cys								2880
	ctg agt Leu Ser	-	_		-		_				2928
	cct cag Pro Gln 980	Leu Le									2976
	act gag Thr Glu 995		ı Asp	-			_	Ser	_		3024
	aag cgg Lys Arg						Arg				3072
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Glu					Glu			ttg Leu		Arg					_	3312	
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-			Thr	_			-	ttc Phe	_			-	Gln		_	3408	
		Ile			_		Ser	tgg Trp l145	_		-	Gly		_	-	3456	
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Phe					Gly			gtg Val		Thr		_			_	3552	
	His			Glu				ctc Leu	Leu					Arg		3600	
-	_		His		_	_	_	aac Asn 1		_			Pro	_		3648	,
		Leu		_			Asn	gcc Ala .225	_	-		Ile		-		3696	
	Val		_				-	gtc Val				-	-			3744	

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His Leu Tyr Leu Ile Pro Ser Asp Cys	s Ser Ile Arg Lys Ala Ile Asp
1250 1255	1260
gat cta gaa atg aaa ttc cag ttt gtg	g cga atc cac aag cca ccc ccg 3840
Asp Leu Glu Met Lys Phe Gln Phe Val	
1265 1270	1275 1280
1200	1213
ctg acc cca ctt tat atg ggc tgt cgt	tac act gtg tct ggg tct ggt 3888
	3 3 333 33
Leu Thr Pro Leu Tyr Met Gly Cys Arg	
1285	1290 1295
	2026
tca ggg atg ctg gaa ata ctc ccc aag	
Ser Gly Met Leu Glu Ile Leu Pro Lys	
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Ser Pro Gly Glu Asp Gln Leu Phe Ser	Glu Phe Tyr Val Gly His Leu
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Gly Ser Gly Ile Arg Leu Gln Val Lys	s Asp Lys Lys Asp Glu Thr Leu
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Val Trp Glu Ala Leu Val Lys Pro Gly	
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	1370 1375
1303	1373
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	1390
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Val Thr Ser Val Glu Val Val Leu Asp	c aaa ctg cat gga cag gtg ctg 4224
	c aaa ctg cat gga cag gtg ctg 4224
Val Thr Ser Val Glu Val Val Leu Asp 1395 1400	c aaa ctg cat gga cag gtg ctg 4224 o Lys Leu His Gly Gln Val Leu 1405
Val Thr Ser Val Glu Val Val Leu Asp	e aaa ctg cat gga cag gtg ctg 4224 o Lys Leu His Gly Gln Val Leu 1405
Val Thr Ser Val Glu Val Val Leu Asp 1395 1400	e aaa ctg cat gga cag gtg ctg 4224 D Lys Leu His Gly Gln Val Leu 1405 g gct gag aac acg agg ccc agc 4272
Val Thr Ser Val Glu Val Val Leu Asp 1395 1400 agc cag gag cag tac gag agg gtg ctg	e aaa ctg cat gga cag gtg ctg 4224 D Lys Leu His Gly Gln Val Leu 1405 g gct gag aac acg agg ccc agc 4272
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Val Thr Ser Val Glu Val Val Leu Asp 1395 1400 agc cag gag cag tac gag agg gtg ctg Ser Gln Glu Gln Tyr Glu Arg Val Leu 1410 1415	e aaa ctg cat gga cag gtg ctg 4224 b Lys Leu His Gly Gln Val Leu 1405 g gct gag aac acg agg ccc agc 4272 a Ala Glu Asn Thr Arg Pro Ser 1420 c cag tcc tgg gac cgg aag tgc 4320
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aaa gat gga ctc tac caa gcc ctg aag gag acc cat cct cac ctc att 4368 Lys Asp Gly Leu Tyr Gln Ala Leu Lys Glu Thr His Pro His Leu Ile 1445 atg gaa ctc tgg gag aag ggc agc aaa aag gga ctc ctg cca ctc agc 4416 Met Glu Leu Trp Glu Lys Gly Ser Lys Lys Gly Leu Leu Pro Leu Ser 1460 1465 1470 4422 agc tga Ser <210> 2 <211> 1473 <212> PRT <213> Homo sapiens <400> 2 Met Ala Gly Gly Ala Trp Gly Arg Leu Ala Cys Tyr Leu Glu Phe Leu 5 10 Lys Lys Glu Glu Leu Lys Glu Phe Gln Leu Leu Ala Asn Lys Ala 25 His Ser Arg Ser Ser Gly Glu Thr Pro Ala Gln Pro Glu Lys Thr 40 Ser Gly Met Glu Val Ala Ser Tyr Leu Val Ala Gln Tyr Gly Glu Gln 55 Arg Ala Trp Asp Leu Ala Leu His Thr Trp Glu Gln Met Gly Leu Arg 70 75 Ser Leu Cys Ala Gln Ala Gln Glu Gly Ala Gly His Ser Pro Ser Phe 85 90 Pro Tyr Ser Pro Ser Glu Pro His Leu Gly Ser Pro Ser Gln Pro Thr 100 105 Ser Thr Ala Val Leu Met Pro Trp Ile His Glu Leu Pro Ala Gly Cys 120 125 Thr Gln Gly Ser Glu Arg Arg Val Leu Arg Gln Leu Pro Asp Thr Ser 135 Gly Arg Arg Trp Arg Glu Ile Ser Ala Ser Leu Leu Tyr Gln Ala Leu 150 155 Pro Ser Ser Pro Asp His Glu Ser Pro Ser Gln Glu Ser Pro Asn Ala 165 170 Pro Thr Ser Thr Ala Val Leu Gly Ser Trp Gly Ser Pro Pro Gln Pro 180 185 Ser Leu Ala Pro Arg Glu Gln Glu Ala Pro Gly Thr Gln Trp Pro Leu Asp Glu Thr Ser Gly Ile Tyr Tyr Thr Glu Ile Arg Glu Arg Glu Arg

Glu Lys Ser Glu Lys Gly Arg Pro Pro Trp Ala Ala Val Val Gly Thr

220

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Pro	Ser	Val	Arg	Glu	Ser	Leu	Cys	Ser	Thr	Trp	Pro	Trp	Lys	Asn	Glu
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Asp	Phe		Gln	Lys	Phe	Thr		Leu	Leu	Leu	Leu		Arg	Pro	His
		275					280					285			
Pro	Arg	Ser	Gln	Asp	Pro		Val	Lys	Arg	Ser		Pro	Asp	Tyr	Val
~ 1	290	_	_	~ 1		295	~ 1	0.1	~ 7	7	300	T .	מי	6 1	
305	Glu	Asn	Arg	GIY	310	Leu	ire	GIU	TTE	Arg 315	Asp	Leu	Pne	СТА	320
	Leu	Λcn	Thr	Gln		Dro	Λκα	Tlo	V > 1		Lau	Gln	Gly	Δla	
СТУ	ьеи	Asp	1111	325	GIU	rio	Arg	116	330	116	пец	GIII	GIY	335	лια
Glv	Ile	Glv	Lvs		Thr	Leu	Ala	Ara		Val	Lvs	Glu	Ala		Glv
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Arg	Gly	Gln	Leu	Tyr	Gly	Asp	Arg	Phe	Gln	His	Val	Phe	Tyr	Phe	Ser
-	-	355		-	-	-	360					365	_		
Cys	Arg	Glu	Leu	Ala	Gln	Ser	Lys	Val	Val	Ser	Leu	Ala	Glu	Leu	Ile
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Gly	Lys	Asp	Gly	Thr	Ala	Thr	Pro	Ala	Pro	Ile	Arg	Gln	Ile	Leu	Ser
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Arg	Pro	Glu	Arg		Leu	Phe	Ile	Leu	_	Gly	Val	Asp	Glu		Gly
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Trp	Val	Leu		Glu	Pro	Ser	Ser		Leu	Cys	Leu	His		Ser	GIn
Pro	Gln	Pro	420	7 cn	7) 1 2	T OU	Lou	425	Sár	Lou	Lou	Clu	430	Thr	Tlo
110	GIII	435	лта	нэр	лта	пси	440	GTY	Del	пец	пси	445	цуз	1111	110
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Glu	Arg	Gln		Ile	Arg	Ala	Phe		Leu	Val	Lys	Ser		Lys	Glu
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Leu	Trp		Leu	Cys	Leu	Val		Trp	Val	Ser	Trp		Ala	Cys	Thr
Cus	Lou	515 Mot	Gln	Gln	Mot	Luc	520	Two	Glu	Lvc	Lou	525	Lou	Thr	Sor
СУБ	Leu 530	Met	GIII	GIII	мес	535	Arg	гуз	GIU	гуѕ	540	1111	цец	1111	Ser
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Ile	Leu	Gln	Glu	His	Pro	Ile	Pro	Leu	Ser	Tyr	Ser	Phe	Ile	His	Leu

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Leu	Glu	Ala	Tyr	Gly	Ile	His	Gly		Phe	Gly	Ala	Ser		Thr	Arg
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Phe	Leu		Gly	Leu	Leu	Ser	_	GIu	GLY	GIu	Arg		Met	GIu	Asn
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тте	690	HIS	Cys	Arg	ьеu	695	GIH	GIY	Arg	ASII	700	мес	GIII	пр	vai
Pro		Len	Gln	T.eu	I.e.ii		Gln	Pro	His	Ser		Glu	Ser	T.eu	His
705	001	шец	GIII	11 C G	710	100	0111	110	1110	715	Dea	Olu	501	200	720
	Leu	Tvr	Glu	Thr		Asn	Ľvs	Thr	Phe		Thr	Gĺn	Val	Met	
- 2 -		2 -		725	,				730					735	
His	Phe	Glu	Glu	Met	Gly	Met	Cys	Val	Glu	Thr	Asp	Met	Glu	Leu	Leu
			740					745					750		
Val	Cys	Thr	Phe	Cys	Ile	Lys	Phe	Ser	Arg	His	Val	Lys	Lys	Leu	Gln
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Leu		Glu	Gly	Arg	Gln	His	Arg	Ser	Thr	Trp	Ser	Pro	Thr	Met	Val
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	Leu	Phe	Arg	Trp		Pro	Val	Thr	Asp		Tyr	Trp	Gln	Ile	
785	_	•	_	_	790		_	_	_	795 -	- 1	_	_	_	800
Phe	Ser	Val	Leu		Val	Thr	Arg	Asn		гÀг	Glu	Leu	Asp		Ser
C1	7 an	Cox	Leu	805	uic	C^~	חות	Wa 1	810	202	Lon	Cvc	Tiro	815	T 011
<u>ст</u> у	ASII	Ser	820	ser	птэ	Ser	нта	825	пуз	Ser	ьец	Суѕ	830	1111	ьeu
Ara	Ara	Pro	Arg	Cvs	Leu	Leu	Glu		Leu	Ara	Leu	Ala		Cvs	Glv
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Gln	Arg	Leu	Gln	Leu	Val	Ser	Cys		Leu	Thr	Ser	Asp		Cys	Gln
	T	7.1	900			0	.	905	ъ.	a .	.	.	910	.	7 0 .
Asp	Leu		Ser	val	Leu	Ser	920	Ser	Pro	Ser	Leu	Lуs 925	GIU	Leu	Asp
T.011	Gln	915 Gln	Asn	Aen	T All	Aen		U = 1	Gl v	Val.	Ara		T.a.i	Cve	Glu
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Glu	Lys	Pro	Gln	Leu	Leu	Ile	Phe	Ser	Arg	Arg	Lys	Pro	Ser	Val	Met
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Ala	Glu	Ile	Ala	Glu	Glu	Ser	Ser	Pro	Glu	Val	Val	Pro	Val	Glu	Le
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Glu	Val	Val	Asp	Lys	Glu	Lys	Asn	Leu	Tyr	Arg	Val	His	Phe	Pro	Val
	1090		-	-		1095				_	1100				*
Ala	Glv	Ser	Tvr	Ara	Trp	Pro	Asn	Thr	Glv	Leu	Cvs	Phe	Val	Met	Arc
1105			- 1 -		1110			~		1115	010				1120
		V = 1	Thr			Ile	Glu	Pho			Ттп	Aen	Gln		
GIU	лта	vaı		1125	Giu	116	Giu		1130	Val	тър	дзр		1135	ъе
C1	C1	тз _			C1-	112 -	C ~			77- 1	7.1.	C1			т
GIY	GIU			Pro	GIN	His		_	мес	vaı	Ата	_		ьeu	ьеι
_			1140		_			1145					1150	_	
Asp			Ala	Glu	Pro	Gly		Val	GLu	Ala			Leu	Pro	His
		1155					1160					1165			
Phe	Val	Ala	Leu	Gln	_	Gly	His	Val	Asp	Thr	Ser	Leu	Phe	Gln	Met
]	170					1175				:	1180				
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Glu	Leu	His	His	Ile	Val	Leu	Glu	Asn	Pro	Ser	Phe	Ser	Pro	Leu	Gly
				1205					1210				3	1215	
Val	Leu	Leu	Lys	Met	Ile	His	Asn	Ala	Leu	Arg	Phe	Ile	Pro	Val	Thi
			1220					1225				-	1230		
Ser	Val	Val	Leu	Leu	Tyr	His	Arq	Val	His	Pro	Glu	Glu	Val	Thr	Phe
		1235			-		1240					1245			
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	.250	- 1 -				1255	1-	-1-			1260	-1-			
		Glu	Met	1.578		Gln	Phe	Val	Δra			T.vs	Pro	Pro	Pro
1265		014	1100		1270	0111	1110	, 44		L275	*****	Ll y U	110		1280
		Dro	Lou			Gly	Cva	7) ~ ~			17-1	802	C1		
Leu	1111	PLO			Met	сту	Cys			TIII	val	ser			GTZ
_	~ 1			1285	~ 1	_	_		1290	_	~ 1	_		1295	_
Ser	GLY			GIu	lie	Leu		_	GLu	Leu	Glu		_	Tyr	Arc
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Gln	Leu	Leu			Val	Asp	Gln			Glu	Gln	Leu			Arc

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Ser Gln Glu Gln Tyr Glu Arg Val Leu Ala Glu Asn Th 1410 1415 1420	ar Arg Pro Ser
Gln Met Arg Lys Leu Phe Ser Leu Ser Gln Ser Trp As	sp Arg Lys Cys
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Lys Lys Glu Glu Leu Lys Glu Phe Gln Leu Leu Al 20 25	-
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Ser Gly Met Glu Val Ala Ser Tyr Leu Val Ala Gln Ty	
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egg gee tgg gae eta gee ete eat ace tgg gag eag at	
Arg Ala Trp Asp Leu Ala Leu His Thr Trp Glu Gln Me 65 70 75	t Gly Leu Arg 80
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Ser Leu Cys Ala Gln Ala Gln Glu Gly Ala Gly His Se	r Pro Ser Phe

							cac His									336
		_			_		tgg Trp 120			_	_	-			_	384
	_				-		gtt Val	_	_	_	_		_			432
	_	-		_	-		tct Ser	_						_		480
	_			_			tct Ser		_	_					_	528
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							gag Glu 200									624
_	-	_					tac Tyr		_		_	-	_		-	672
							ccc Pro			_			_		-	720
			-				cta Leu								-	768
							tgt Cys									816
_							cag Gln 280	_					-			864

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											gac Asp				960
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											ctc Leu 380				1152
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				_					-		gta Val	-			1248
	-	-	-		_	_				-	ctg Leu		 _	_	1296
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											acc Thr 460				1392
											gta Val				1440

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-			_		-	-		_	_	aaa Lys					1536
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		_		_			_	_		ctc Leu 540					1632
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_	_		_			_	_	_		tgc Cys		_	_	_	1728
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-				_		_				ttc Phe	_	_	_		1824
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_	_							_		_		caa Gln		-	-	2208
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	_			_				_	_			aag Lys 765	_		_	2304
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_	_				_		-		-	_		tgg Trp	_			2400
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						_	_					ctg Leu	_	_		2592

7			ttc aat gtg ctc Phe Asn Val Leu 875	• •	
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	_		ggc gtg cga ctg Gly Val Arg Leu 940	3 3 3	
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			ect caa ggg gac er Gln Gly Asp 1035		
		Asp Asp Phe T	gg ggc ccc acg rp Gly Pro Thr		

gct act gag gta gtt Ala Thr Glu Val Val 1060	Asp Lys Glu I		3216
cct gta gct ggc tcc Pro Val Ala Gly Ser 1075		u Cys Phe Val	3264
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ttc ctg ggt gag atc Phe Leu Gly Glu Ile 1105			3360
ctg ctg gac atc aag Leu Leu Asp Ile Lys 1125	Ala Glu Pro G	 	3408
cct cac ttt gtg gct Pro His Phe Val Ala 1140	Leu Gln Gly G		3456
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=	_	act ctg atc			-	Pro
_		ccg cag ttg Pro Gln Leu	_			
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		ctg agc cag Leu Ser Gln 1335				-
	Arg Pro	agc cag atg Ser Gln Met 350	Arg Lys	-	Ser Leu Ser	
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Pro Ser Val Arg Glu Ser Leu Cys Ser Thr Trp Pro Trp Lys Asn Glu Asp Phe Asn Gln Lys Phe Thr Gln Leu Leu Leu Gln Arg Pro His Pro Arg Ser Gln Asp Pro Leu Val Lys Arg Ser Trp Pro Asp Tyr Val Glu Glu Asn Arg Gly His Leu Ile Glu Ile Arg Asp Leu Phe Gly Pro Gly Leu Asp Thr Gln Glu Pro Arg Ile Val Ile Leu Gln Gly Ala Ala Gly Ile Gly Lys Ser Thr Leu Ala Arg Gln Val Lys Glu Ala Trp Gly Arg Gly Gln Leu Tyr Gly Asp Arg Phe Gln His Val Phe Tyr Phe Ser Cys Arg Glu Leu Ala Gln Ser Lys Val Val Ser Leu Ala Glu Leu Ile Gly Lys Asp Gly Thr Ala Thr Pro Ala Pro Ile Arg Gln Ile Leu Ser Arg Pro Glu Arg Leu Leu Phe Ile Leu Asp Gly Val Asp Glu Pro Gly Trp Val Leu Gln Glu Pro Ser Ser Glu Leu Cys Leu His Trp Ser Gln Pro Gln Pro Ala Asp Ala Leu Leu Gly Ser Leu Leu Gly Lys Thr Ile Leu Pro Glu Ala Ser Phe Leu Ile Thr Ala Arg Thr Thr Ala Leu Gln Asn Leu Ile Pro Ser Leu Glu Gln Ala Arg Trp Val Glu Val Leu Gly Phe Ser Glu Ser Ser Arg Lys Glu Tyr Phe Tyr Arg Tyr Phe Thr Asp Glu Arg Gln Ala Ile Arg Ala Phe Arg Leu Val Lys Ser Asn Lys Glu

Leu Trp Ala Leu Cys Leu Val Pro Trp Val Ser Trp Leu Ala Cys Thr Cys Leu Met Gln Gln Met Lys Arg Lys Glu Lys Leu Thr Leu Thr Ser Lys Thr Thr Thr Leu Cys Leu His Tyr Leu Ala Gln Ala Leu Gln Ala Gln Pro Leu Gly Pro Gln Leu Arg Asp Leu Cys Ser Leu Ala Ala Glu Gly Ile Trp Gln Lys Lys Thr Leu Phe Ser Pro Asp Asp Leu Arg 590 1 Lys His Gly Leu Asp Gly Ala Ile Ile Ser Thr Phe Leu Lys Met Gly Ile Leu Gln Glu His Pro Ile Pro Leu Ser Tyr Ser Phe Ile His Leu Cys Phe Gln Glu Phe Phe Ala Ala Met Ser Tyr Val Leu Glu Asp Glu Lys Gly Arg Gly Lys His Ser Asn Cys Ile Ile Asp Leu Glu Lys Thr Leu Glu Ala Tyr Gly Ile His Gly Leu Phe Gly Ala Ser Thr Thr Arg Phe Leu Leu Gly Leu Leu Ser Asp Glu Gly Glu Arg Glu Met Glu Asn Ile Phe His Cys Arg Leu Ser Gln Gly Arg Asn Leu Met Gln Trp Val Pro Ser Leu Gln Leu Leu Gln Pro His Ser Leu Glu Ser Leu His Cys Leu Tyr Glu Thr Arg Asn Lys Thr Phe Leu Thr Gln Val Met Ala His Phe Glu Glu Met Gly Met Cys Val Glu Thr Asp Met Glu Leu Leu Val Cys Thr Phe Cys Ile Lys Phe Ser Arg His Val Lys Lys Leu Gln

Leu Ile Glu Gly Arg Gln His Arg Ser Thr Trp Ser Pro Thr Met Val Val Leu Phe Arg Trp Val Pro Val Thr Asp Ala Tyr Trp Gln Ile Leu Phe Ser Val Leu Lys Val Thr Arg Asn Leu Lys Glu Leu Asp Leu Ser Gly Asn Ser Leu Ser His Ser Ala Val Lys Ser Leu Cys Lys Thr Leu Arg Arg Pro Arg Cys Leu Leu Glu Thr Leu Arg Leu Ala Gly Cys Gly Leu Thr Ala Glu Asp Cys Lys Asp Leu Ala Phe Gly Leu Arg Ala Asn Gln Thr Leu Thr Glu Leu Asp Leu Ser Phe Asn Val Leu Thr Asp Ala Gly Ala Lys His Leu Cys Gln Arg Leu Arg Gln Pro Ser Cys Lys Leu Gln Arg Leu Gln Leu Val Ser Cys Gly Leu Thr Ser Asp Cys Cys Gln Asp Leu Ala Ser Val Leu Ser Ala Ser Pro Ser Leu Lys Glu Leu Asp Leu Gln Gln Asn Asn Leu Asp Asp Val Gly Val Arg Leu Leu Cys Glu Gly Leu Arg His Pro Ala Cys Lys Leu Ile Arg Leu Gly Lys Pro Ser Val Met Thr Pro Thr Glu Gly Leu Asp Thr Gly Glu Met Ser Asn Ser Thr Ser Ser Leu Lys Arg Gln Arg Leu Gly Ser Glu Arg Ala Ala Ser His Val Ala Gln Ala Asn Leu Lys Leu Leu Asp Val Ser Lys Ile Phe Pro Ile Ala Glu Ile Ala Glu Glu Ser Ser Pro Glu Val Val Pro Val

- Glu Leu Cys Val Pro Ser Pro Ala Ser Gln Gly Asp Leu His Thr 1025 1030 1035 1040
- Lys Pro Leu Gly Thr Asp Asp Phe Trp Gly Pro Thr Gly Pro Val 1045 1050 1055
- Ala Thr Glu Val Val Asp Lys Glu Lys Asn Leu Tyr Arg Val His Phe 1060 1065 1070
- Pro Val Ala Gly Ser Tyr Arg Trp Pro Asn Thr Gly Leu Cys Phe Val 1075 1080 1085
- Met Arg Glu Ala Val Thr Val Glu Ile Glu Phe Cys Val Trp Asp Gln
 1090 1095 1100
- Phe Leu Gly Glu Ile Asn Pro Gln His Ser Trp Met Val Ala Gly Pro 1105 1110 1115 1120
- Leu Leu Asp Ile Lys Ala Glu Pro Gly Ala Val Glu Ala Val His Leu 1125 1130 1135
- Pro His Phe Val Ala Leu Gln Gly Gly His Val Asp Thr Ser Leu Phe 1140 1145 1150
- Gln Met Ala His Phe Lys Glu Glu Gly Met Leu Leu Glu Lys Pro Ala 1155 1160 1165
- Arg Val Glu Leu His His Ile Val Leu Glu Asn Pro Ser Phe Ser Pro 1170 1175 1180
- Leu Gly Val Leu Leu Lys Met Ile His Asn Ala Leu Arg Phe Ile Pro 1185 1190 1195 1200
- Val Thr Ser Val Val Leu Leu Tyr His Arg Val His Pro Glu Glu Val 1205 1210 1215
- Thr Phe His Leu Tyr Leu Ile Pro Ser Asp Cys Ser Ile Arg Lys Glu 1220 1225 1230
- Leu Glu Leu Cys Tyr Arg Ser Pro Gly Glu Asp Gln Leu Phe Ser Glu 1235 1240 1245
- Phe Tyr Val Gly His Leu Gly Ser Gly Ile Arg Leu Gln Val Lys Asp 1250 1255 1260
- Lys Lys Asp Glu Thr Leu Val Trp Glu Ala Leu Val Lys Pro Gly Asp 1265 1270 1275 1280

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	Glu (Leu 315	Ile	Ala	Arg		Thr 1320	Ser	Val	Glu		Val 1325	Leu	Asp	Lys	
	Leu I	His 330	Gly	Gln	Val		Ser 1335	Gln	Glu	Gln	_	Glu 1340	Arg	Val	Leu	Ala	
-	Glu <i>I</i> 1345	Asn	Thr	Arg		Ser 1350	Gln	Met	Arg		Leu 1355	Phe	Ser	Leu		Gln 13 ⁶ 0	
	Ser 5	Trp	Asp	_	Lys 1365	Cys	Lys	Asp		Leu L370	Tyr	Gln	Ala		Lys 1375	Glu	
	Thr H	His		His 1380	Leu	Ile	Met		Leu 1385	Trp	Glu	Lys	_	Ser 1390	Lys	Lys	
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	_				gcc Ala 70											240
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					gaa Glu										_	336
		_			atg Met					_	_	_			_	384
	_				aga Arg		-	-	-	_	_		_			432
	_	-		-	gaa Glu 150			-						_		480
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	-				att Ile											672
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					ccc Pro											912
	-		_		cat His 310					=	_					960
	_	_			gaa Glu											1008
			_		aca Thr	_			_		_	-	-			1056
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		_			gcc Ala 390		_	-			_	_		_		1200
				_	ctc Leu											1248
	-				ccg Pro											1296

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			_			_		acg Thr						_	_	1392
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_			_		_	_		agg Arg 505	_	_						1536
	2 3	_	-	-				tgg Trp				_	-	-		1584
_	_	_	_		_	_		aag Lys	_				_			1632
_						-		cat His			-	-	-			1680
-	_		_			_		aga Arg	_		-		_	-	_	1728
								ctt Leu 585								1776
_				_		_		atc Ile				_		_		1824
			-					ctg Leu	_		_					1872

-			-		ttt Phe 630						1920
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	_	_			ata Ile						2016
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					ctg Leu						2112
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		_			ggc Gly						2256
					att Ile						2304
					cag Gln						2352
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		-			gtc Val						2448

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-	_		_	_			, ,		_		ttg Leu	_		_		2544
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											ccg Pro					2688
	_	_	_	_	_	_	-			_	tct Ser	_	_	_	_	2736
_	-	_				-	-	-		_	ctg Leu	_			-	2784
_						_	-	_		, ,	cga Arg 940	_		-		2832
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	_						_	_	_		gag Glu					2928
											gag Glu					2976
		-				Leu					gtg Val					3024

cca att gct gag Pro Ile Ala Glu 1010	_				3072
gaa ctc ttg tgc Glu Leu Leu Cys 1025		Pro Ala Ser (3120
aag cct ttg ggg Lys Pro Leu Gly		-			3168
gct act gag gta Ala Thr Glu Val 1060	,	-	Leu Tyr Arg	- ·	3216
cct gta gct ggc Pro Val Ala Gly 1075	Ser Tyr Arg				3264
atg aga gaa gcg Met Arg Glu Ala 1090					3312
ttc ctg ggt gag Phe Leu Gly Glu 1105		Gln His Ser			3360
ctg ctg gac atc Leu Leu Asp Ile				-	3408
cct cac ttt gtg Pro His Phe Val 1140	-		Val Asp Thr		3456
caa atg gcc cac Gln Met Ala His 1155	Phe Lys Glu			-	3504
agg gtg gag ctg Arg Val Glu Leu 1170			_		3552
ttg gga gtc ctc Leu Gly Val Leu 1185		Ile His Asn A			3600

gtc acc tct gtg Val Thr Ser Val			Val His Pro Gl	
acc ttc cac ctc Thr Phe His Leu 1220	-		-	g Lys Ala
ata gat gat cta Ile Asp Asp Leu 1235	Glu Met Lys	_		-
ccc ccg ctg acc Pro Pro Leu Thr 1250				
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cac ttg gga tca His Leu Gly Ser 1300				s Asp Glu
act ctg gtg tgg Thr Leu Val Trp 1315	Glu Ala Leu		3 2 2	-
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gcc cga gtg aca Ala Arg Val Thr				
gtg ctg agc cag Val Leu Ser Gln 1380				n Thr Arg

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Asp Glu Thr Ser Gly Ile Tyr Tyr Thr Glu Ile Arg Glu Arg Glu Arg
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Glu Lys Ser Glu Lys Gly Arg Pro Pro Trp Ala Ala Val Val Gly Thr
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Pro Pro Gln Ala His Thr Ser Leu Gln Pro His His Pro Trp Glu
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Pro Ser Val Arg Glu Ser Leu Cys Ser Thr Trp Pro Trp Lys Asn Glu
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Asp Phe Asn Gln Lys Phe Thr Gln Leu Leu Leu Gln Arg Pro His
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Pro Arg Ser Gln Asp Pro Leu Val Lys Arg Ser Trp Pro Asp Tyr Val
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Glu Glu Asn Arg Gly His Leu Ile Glu Ile Arg Asp Leu Phe Gly Pro
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Gly Leu Asp Thr Gln Glu Pro Arg Ile Val Ile Leu Gln Gly Ala Ala
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Gly Ile Gly Lys Ser Thr Leu Ala Arg Gln Val Lys Glu Ala Trp Gly
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Arg Gly Gln Leu Tyr Gly Asp Arg Phe Gln His Val Phe Tyr Phe Ser
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Gly Lys Asp Gly Thr Ala Thr Pro Ala Pro Ile Arg Gln Ile Leu Ser
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Arg Pro Glu Arg Leu Leu Phe Ile Leu Asp Gly Val Asp Glu Pro Gly
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Trp Val Leu Gln Glu Pro Ser Ser Glu Leu Cys Leu His Trp Ser Gln
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Phe Ser Glu Ser Ser Arg Lys Glu Tyr Phe Tyr Arg Tyr Phe Thr Asp
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Leu Trp Ala Leu Cys Leu Val Pro Trp Val Ser Trp Leu Ala Cys Thr
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Cys Leu Met Gln Gln Met Lys Arg Lys Glu Lys Leu Thr Leu Thr Ser
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Lys Thr Thr Thr Leu Cys Leu His Tyr Leu Ala Gln Ala Leu Gln
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Lys Gly Arq Gly Lys His Ser Asn Cys Ile Ile Asp Leu Glu Lys Thr
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Ile Phe His Cys Arg Leu Ser Gln Gly Arg Asn Leu Met Gln Trp Val
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                                            700
Pro Ser Leu Gln Leu Leu Gln Pro His Ser Leu Glu Ser Leu His
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Cys Leu Tyr Glu Thr Arg Asn Lys Thr Phe Leu Thr Gln Val Met Ala
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His Phe Glu Glu Met Gly Met Cys Val Glu Thr Asp Met Glu Leu Leu
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Gly Leu Arg His Pro Ala Cys Lys Leu Ile Arg Leu Gly Lys Pro Ser
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                                                            960
Val Met Thr Pro Thr Glu Gly Leu Asp Thr Gly Glu Met Ser Asn Ser
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                                    970
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Th	ır	Ser	Ser	Leu 980	Lys	Arg	Gln	Arg	Leu 985	Gly	Ser	Glu	Arg	Ala 990	Ala	Ser
							_	_		_	_		_			
Нј	LS	Val	Ala 995	Gln	Ala	Asn		Lys 1000	Leu	Leu	Asp		Ser 1005	Lys	Ile	Phe
Pτ	^^	Tle	Ala	Glu	Ile	Ala	Glu	Glu	Ser	Ser	Pro	Glu	Val	Val	Pro	Va 1
		1010	mu	Olu	110		1015	Oru	001	OCI		1020	• • • •	• • • • • • • • • • • • • • • • • • • •	110	, 41
G]	lυ	Leu	Leu	Cys	Val	Pro	Ser	Pro	Ala	Ser	Gln	Gly	Asp	Leu	His	Thr
10)25	5				1030				;	1035					1040
Ly	/S	Pro	Leu	Gly	Thr	Asp	Asp	Asp	Phe	Trp	Gly	Pro	Thr	Gly	Pro	Val
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Μe	et.	Ara	Glu	Ala	Val	Thr	Val	Glu	Ile	Glu	Phe	Cvs	Val	Trp	Asp	Gln
		.090					1095					1100		r	1	
D۲			Glv	Glu	Ile			Gln	Hie	Ser			Val	Δla	Glv	Pro
	105		ОТУ	Olu		1110	110	OIII	пто		1115	1100	VUI	mu		1120
			7	т1.			C1	Dago	C1			C1	חות	17.5.7		
LΘ	eu	Leu	Asp		Lys	Ата	GIU	Pro			vaı	GIU	Ата			ьеи
					1125					1130					1135	
Pr	0	His	Phe	Val	Ala	Leu	Gln			His	Val	Asp			Leu	Phe
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Le	eu	Gly	Val	Leu	Leu	Lys	Met	Ile	His	Asn	Ala	Leu	Arg	Phe	Ile	Pro
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Va	1	Thr	Ser	Val	Val	Leu	Leu	Tyr	His	Arg	Val	His	Pro	Glu	Glu	Val
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Тh	r	Phe	His	Leu	Tyr	Leu	Tle	Pro	Ser	Asp	Cvs	Ser	Tle			Ala
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т 1	۵	Asp			Glu	Met	Lvs			Phe	Val	Ara			Lvs	Pro
		_	_		OLG		_					_			Lyo	
D.															Sor	C1.
FL			ьеи	1111	Pro			Met	сту	Cys		191	1111	vaı	Ser	ату
0 -		.250	0	G1	N - 1-		1255	T1 -	T	D			T	C1	T	G
		_	ser	СТА	Met	ьеи 1270	GIU	тте	ьeu		ьуs 1275	GIU	ьеu	GIU		Cys 1280
	65			_			_	0 1	-			0.1	D.	m		
Ту	'r	Arg	Ser		Gly	GLu	Asp	GIn			Ser	GLu	Phe	_		GLY
					1285	_				1290					1295	
Hi	.s	Leu	_		Gly	Ile	Arg			Val	Lys	Asp			Asp	Glu
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Th	r			Trp	Glu	Ala			Lys	Pro	Gly	_		Met	Pro	Ala
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Ήh			Leu	Ile	Pro			Arg	TTe	Ala			Ser	Pro	Leu	Asp
		330	6 3	_	_		L335		_	~ 1		1340	~ 1	6 1	_	
			Gin	Leu	Leu								GLu	GLn		
13	145				-	1350				1	1355				1	ころんり

Ala Arg Val Thr Ser Val Glu Val Val Leu Asp Lys Leu His Gly Gln 1370 1365 Val Leu Ser Gln Glu Gln Tyr Glu Arg Val Leu Ala Glu Asn Thr Arg 1380 1385 Pro Ser Gln Met Arq Lys Leu Phe Ser Leu Ser Gln Ser Trp Asp Arq 1400 Lys Cys Lys Asp Gly Leu Tyr Gln Ala Leu Lys Glu Thr His Pro His 1415 1420 Leu Ile Met Glu Leu Trp Glu Lys Gly Ser Lys Lys Gly Leu Leu Pro 1430 1435 1440 Leu Ser Ser

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	_													cag Gln		336
_	_	_	-	_	_			-	_		_			ggc Gly		384
_		-	~		_					-	_	_	-	atc Ile		432
											-	_		tgg Trp		480
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														tct Ser		576
_			_	_			-	_			_			atc Ile		624
					_								•	gat Asp		672
-			_			-		_	_	-	-			aag Lys		720
	_	_		_	_	_					-			act Thr 255		768
		_	_		_					_				tct Ser		816
	_		_		-	-		_		_		_		tac Tyr		864

-			-		cag Gln											912
_	_				ctt Leu 310				_		-				-	960
					gtg Val											1008
	_				ttc Phe			-	_			_				1056
				-	agg Arg	_		_	_					_	_	1104
	_	_			gtt Val											1152
_	_	_			cag Gln 390	_	_			_	_	_	_	_		1200
	_			_	ctg Leu	_	_	_				-	_		_	1248
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Glu Lys	Lys	Gly	Asp 405	Leu	Ala	Leu	Asp	Val 410	Leu	Phe	Arg	Ser	Ile 415	Ser	
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cgg gcc		_													240
Arg Ala 65	Trp /	иѕр	ьeu	70	ьeu	пlS	rnr	rrp	75	GIN	мет	σΤλ	ьeu	80	
tca ctg															288
Ser Leu	Cys 7	Ala	Gln	Ala	Gln	Glu	Gly	Ala	Gly	His	Ser	Pro	Ser	Phe	

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	_			-			tct Ser		_	-					_	528
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_	_	_					tac Tyr									672
			_				ccc Pro			_			_		-	720
		_				-	cta Leu	_							-	768
																016

cct tct gtg aga gag agc ctc tgt tcc aca tgg ccc tgg aaa aat gag

Pro Ser Val Arg Glu Ser Leu Cys Ser Thr Trp Pro Trp Lys Asn Glu

gat ttt aac caa aaa ttc aca cag ctg cta ctt cta caa aga cct cac

Asp Phe Asn Gln Lys Phe Thr Gln Leu Leu Leu Gln Arg Pro His

265

816

864

275 280 285

	_	_		_	ccc Pro	_	_	_	-	_						912
, ,	, ,		_		cat His 310					-	_					960
	_	_			gaa Glu		-		-		_	_		-	_	1008
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_		_	-		ggg	-	_		_		_				_	1104
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		-			gcc Ala 390		_	_			_	_		_		1200
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	-	_	_		ccg Pro	_				_	_				_	1296
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					_	acc Thr									1776
_				 	-	atc Ile 600						_	_		1824
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cta Leu	_	_				ggc Gly	_			_				_	2016

660	665	6/0

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_					_		_		aca Thr		-			_	_	2352
_	_				-		-		gat Asp	_			_			2400
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		_	_	_			_		aag Lys	_						2496
_	_		_	_					ctg Leu							2544
		-	-	_	_	_	-		gcc Ala		-					2592

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_		_			_	gac Asp	_	_					_	-	-	2640
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пор	БСС	915	OCI	Val	БСС	DCI	920	OCI		001	Bea	925	Olu	1300	1105	
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Leu		Gln	Asn	Asn	Leu	Asp	Asp	Val	Gly	Val		Leu	Leu	Cys	Glu	
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Gly	Leu	Arg	His	Pro	Ala	Cys	Lys	Leu	Ile	Arg	Leu	Gly	Leu	Asp	Gln	
945					950					955					960	
	a a t	a+ ~	- ~ t	~ - t-	~~~	a + ~	~~~	~~~	~~~	a+ a		~~~	a+ a	~~~	000	2928
		_	-	_		atg Met		_	_	_						2920
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			_	_		atc										2976
Glu	Lys	Pro	Gln 980	Leu	Leu	Ile	Phe	Ser 985	Arg	Arg	Lys	Pro	Ser 990	Va⊥	Met	
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acc	cct	act	gag	ggc	ctg	gat	acg	gga	gag	atg	agt	aat	agc	aca	tcc	3024
Thr	Pro	Thr	Glu	Gly	Leu	Asp	Thr	Gly	Glu	Met	Ser	Asn	Ser	Thr	Ser	
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tca	ctc	nss	caa	cad	ana	ctc	aaa	tca	gag	ann	aca	act	tcc	cat	att	3072
						Leu										3072
	1010	-	,		_	1015	-			_	.020					
_	_	_				ctc	_	_		_	_					3120
	GIn	Ата	Asn		_	Leu	Leu	Asp		Ser .035	ьуs	тте	rne		11e .040	
コロクリ	5			1	በደበ											
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Leu Cys Val Pro Ser Pro Ala Ser Gln Gly Asp Leu His Thr Lys Pro	3210
1060 1065 1070	
ttg ggg act gac gat gac ttt ctg ggg cct gaa gga aat gtg gat gtt	3264
Leu Gly Thr Asp Asp Phe Leu Gly Pro Glu Gly Asn Val Asp Val	
1075 1080 1085	
gag ttg att gat aag agc aca aac aga tac agc gtt tgg ttc ccc act	3312
Glu Leu Ile Asp Lys Ser Thr Asn Arg Tyr Ser Val Trp Phe Pro Thr	
1090 1095 1100	
•	
gct ggc tgg tat ctg tgg tca gcc aca ggc ctc ggc ttc ctg gta agg	3360
Ala Gly Trp Tyr Leu Trp Ser Ala Thr Gly Leu Gly Phe Leu Val Arg	
1105 1110 1115 1120	
gat gag gtc aca gtg acg att gcg ttt ggt tcc tgg agt cag cac ctg	3408
Asp Glu Val Thr Val Thr Ile Ala Phe Gly Ser Trp Ser Gln His Leu	
1125 1130 1135	
gcc ctg gac ctg cag cac cat gaa cag tgg ctg gtg ggc ggc ccc ttg	3456
Ala Leu Asp Leu Gln His His Glu Gln Trp Leu Val Gly Gly Pro Leu 1140 1145 1150	
1140	
ttt gat gtc act gca gag cca gag gag gct gtc gcc gaa atc cac ctc	3504
Phe Asp Val Thr Ala Glu Pro Glu Glu Ala Val Ala Glu Ile His Leu	
1155 1160 1165	
	2552
ccc cac ttc atc tcc ctc caa ggt gag gtg gac gtc tcc tgg ttt ctc Pro His Phe Ile Ser Leu Gln Gly Glu Val Asp Val Ser Trp Phe Leu	3552
1170 1175 1180 1180 1175 1180	
gtt gcc cat ttt aag aat gaa ggg atg gtc ctg gag cat cca gcc cgg	3600
Val Ala His Phe Lys Asn Glu Gly Met Val Leu Glu His Pro Ala Arg	
1185 1190 1195 1200	
gtg gag cet tte tat get gte etg gaa age eee age tte tet etg atg	3648
Val Glu Pro Phe Tyr Ala Val Leu Glu Ser Pro Ser Phe Ser Leu Met	3010
1205 1210 1215	
ggc atc ctg ctg cgg atc gcc agt ggg act cgc ctc tcc atc ccc atc	3696
Gly Ile Leu Leu Arg Ile Ala Ser Gly Thr Arg Leu Ser Ile Pro Ile	
1220 1225 1230	
act too aac aca ttg ato tat tat cac coc cac coc gaa gat att aag	3744
Thr Ser Asn Thr Leu Ile Tyr Tyr His Pro His Pro Glu Asp Ile Lys	

1235 1240 1245

_	tac ctt gtc Tyr Leu Val	· -		Thr Lys	- •	3792
	gaa gat cgc Glu Asp Arg 1270			-	-	3840
	ccc ctg aac Pro Leu Asn 1285		Ē	Val Ser		3888
Ala Asn Leu	aaa gta atg Lys Val Met 1300		Leu Lys Leu			3936
	att cag cac Ile Gln His					3984
-	caa ctt gag Gln Leu Glu 1		3	Gly Thr		4032
	gag gtg aag Glu Val Lys 1350					4080
-	cct ttc tca Pro Phe Ser 1365	Gly Ala Ala		Glu Asn		4128
Gln Leu Gln	gcc agg atg Ala Arg Met 1380			_	-	4176
	gag gtt ctt Glu Val Leu		Glu Lys Glu			4224
	cgg cag agc Arg Gln Ser		-			4272
	gac ctg gcc Asp Leu Ala		-	_		4320

1425 1430 1435 1440

agg gac cct tac ctc gtg tcc tat ctt aga cag cag aat ttg 4362 Arg Asp Pro Tyr Leu Val Ser Tyr Leu Arg Gln Gln Asn Leu 1445 1450

taaaatgagt cagttaggta gtctggaaga gagaatccag cgttctcatt ggaaatggat 4422

aaacagaaat gtgatcattg atttcagtgt tcaagacaga agaagactgg gtaacatcta 4482

tcacacaggc tttcaggaca gacttgtaac ctggcatgta cctattgact gtatcctcat 4542

gcattttcct caag 4556

<210> 10

<211> 1454

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: Synthetic Construct

<400> 10

Met Ala Gly Gly Ala Trp Gly Arg Leu Ala Cys Tyr Leu Glu Phe Leu 1 5 10 15

Lys Lys Glu Glu Leu Lys Glu Phe Gln Leu Leu Leu Ala Asn Lys Ala
20 25 30

His Ser Arg Ser Ser Ser Gly Glu Thr Pro Ala Gln Pro Glu Lys Thr \$35\$

Ser Gly Met Glu Val Ala Ser Tyr Leu Val Ala Gl
n Tyr Gly Glu Gl
n 50 $$ 55 $$ 60

Arg Ala Trp Asp Leu Ala Leu His Thr Trp Glu Gln Met Gly Leu Arg
65 70 75 80

Ser Leu Cys Ala Gln Ala Gln Glu Gly Ala Gly His Ser Pro Ser Phe 85 90 95

Pro Tyr Ser Pro Ser Glu Pro His Leu Gly Ser Pro Ser Gln Pro Thr 100 105 110

Ser Thr Ala Val Leu Met Pro Trp Ile His Glu Leu Pro Ala Gly Cys 115 120 125

Thr Gln Gly Ser Glu Arg Arg Val Leu Arg Gln Leu Pro Asp Thr Ser

130	135	140

Gly Arg Arg Trp Arg Glu Ile Ser Ala Ser Leu Leu Tyr Gln Ala Leu Pro Ser Ser Pro Asp His Glu Ser Pro Ser Gln Glu Ser Pro Asn Ala Pro Thr Ser Thr Ala Val Leu Gly Ser Trp Gly Ser Pro Pro Gln Pro Ser Leu Ala Pro Arg Glu Gln Glu Ala Pro Gly Thr Gln Trp Pro Leu Asp Glu Thr Ser Gly Ile Tyr Tyr Thr Glu Ile Arg Glu Arg Glu Arg Glu Lys Ser Glu Lys Gly Arg Pro Pro Trp Ala Ala Val Val Gly Thr Pro Pro Gln Ala His Thr Ser Leu Gln Pro His His Pro Trp Glu Pro Ser Val Arg Glu Ser Leu Cys Ser Thr Trp Pro Trp Lys Asn Glu Asp Phe Asn Gln Lys Phe Thr Gln Leu Leu Leu Gln Arg Pro His Pro Arg Ser Gln Asp Pro Leu Val Lys Arg Ser Trp Pro Asp Tyr Val Glu Glu Asn Arg Gly His Leu Ile Glu Ile Arg Asp Leu Phe Gly Pro Gly Leu Asp Thr Gln Glu Pro Arg Ile Val Ile Leu Gln Gly Ala Ala Gly Ile Gly Lys Ser Thr Leu Ala Arg Gln Val Lys Glu Ala Trp Gly Arg Gly Gln Leu Tyr Gly Asp Arg Phe Gln His Val Phe Tyr Phe Ser Cys Arg Glu Leu Ala Gln Ser Lys Val Val Ser Leu Ala Glu Leu Ile

Gly Lys Asp Gly Thr Ala Thr Pro Ala Pro Ile Arg Gln Ile Leu Ser

Arg Pro Glu Arg Leu Leu Phe Ile Leu Asp Gly Val Asp Glu Pro Gly 405 410 415

Trp Val Leu Gln Glu Pro Ser Ser Glu Leu Cys Leu His Trp Ser Gln 420 425 430

Pro Gln Pro Ala Asp Ala Leu Leu Gly Ser Leu Leu Gly Lys Thr Ile 435 440 445

Leu Pro Glu Ala Ser Phe Leu Ile Thr Ala Arg Thr Thr Ala Leu Gln 450 455 460

Asn Leu Ile Pro Ser Leu Glu Gln Ala Arg Trp Val Glu Val Leu Gly 465 470 475 480

Phe Ser Glu Ser Ser Arg Lys Glu Tyr Phe Tyr Arg Tyr Phe Thr Asp 485 490 495

Glu Arg Gln Ala Ile Arg Ala Phe Arg Leu Val Lys Ser Asn Lys Glu 500 505 510

Leu Trp Ala Leu Cys Leu Val Pro Trp Val Ser Trp Leu Ala Cys Thr 515 520 525

Cys Leu Met Gln Gln Met Lys Arg Lys Glu Lys Leu Thr Leu Thr Ser 530 540

Lys Thr Thr Thr Thr Leu Cys Leu His Tyr Leu Ala Gln Ala Leu Gln 545 550 555 560

Ala Gln Pro Leu Gly Pro Gln Leu Arg Asp Leu Cys Ser Leu Ala Ala 565 570 575

Glu Gly Ile Trp Gln Lys Lys Thr Leu Phe Ser Pro Asp Asp Leu Arg 580 585 590

Lys His Gly Leu Asp Gly Ala Ile Ile Ser Thr Phe Leu Lys Met Gly 595 600 605

Ile Leu Gln Glu His Pro Ile Pro Leu Ser Tyr Ser Phe Ile His Leu 610 615 620

Cys Phe Gln Glu Phe Phe Ala Ala Met Ser Tyr Val Leu Glu Asp Glu 625 630 635 640

Lys Gly Arg Gly Lys His Ser Asn Cys Ile Ile Asp Leu Glu Lys Thr

				010											
Leu	Glu	Ala	Tyr 660	Gly	Ile	His	Gly	Leu 665	Phe	Gly	Ala	Ser	Thr 670	Thr	Arg
Phe	Leu	Leu 675	Gly	Leu	Leu	Ser	Asp 680	Glu	Gly	Glu	Arg	Glu 685	Met	Glu	Asn
Ile	Phe 690	His	Cys	Arg	Leu	Ser 695	Gln	Gly	Arg	Asn	Leu 700	Met	Gln	Trp	Val
Pro 705	Ser	Leu	Gln	Leu	Leu 710	Leu	Gln	Pro	His	Ser 715	Leu	Glu	Ser	Leu	His 720
Cys	Leu	Tyr	Glu	Thr 725	Arg	Asn	Lys	Thr	Phe 730	Leu	Thr	Gln	Val	Met 735	Ala
His	Phe	Glu	Glu 740	Met	Gly	Met	Cys	Val 745	Glu	Thr	Asp	Met	Glu 750	Leu	Leu
Val	Cys	Thr 755	Phe	Cys	Ile	Lys	Phe 760	Ser	Arg	His	Val	Lys 765	Lys	Leu	Gln
Leu	Ile 770	Glu	Gly	Arg	Gln	His 775	Arg	Ser	Thr	Trp	Ser 780	Pro	Thr	Met	Val
Val 785	Leu	Phe	Arg	Trp	Val 790	Pro	Val	Thr	Asp	Ala 795	Tyr	Trp	Gln	Ile	Leu 800
Phe	Ser	Val	Leu	Lys 805	Val	Thr	Arg	Asn	Leu 810	Lys	Glu	Leu	Asp	Leu 815	Ser
Gly	Asn	Ser	Leu 820	Ser	His	Ser	Ala	Val 825	Lys	Ser	Leu	Cys	Lys 830	Thr	Leu
Arg	Arg	Pro 835	Arg	Cys	Leu	Leu	Glu 840	Thr	Leu	Arg	Leu	Ala 845	Gly	Cys	Gly
Leu	Thr 850	Ala	Glu	Asp	Cys	Lys 855	Asp	Leu	Ala	Phe	Gly 860	Leu	Arg	Ala	Asn
Gln 865	Thr	Leu	Thr	Glu	Leu 870	Asp	Leu	Ser	Phe	Asn 875	Val	Leu	Thr	Asp	Ala 880
Gly	Ala	Lys	His	Leu 885	Cys	Gln	Arg	Leu	Arg 890	Gln	Pro	Ser	Cys	Lys 895	Leu

Gln Arg Leu Gln Leu Val Ser Cys Gly Leu Thr Ser Asp Cys Cys Gln

Asp Leu Ala Ser Val Leu Ser Ala Ser Pro Ser Leu Lys Glu Leu Asp 915 920 925

905

- Leu Gln Gln Asn Asn Leu Asp Asp Val Gly Val Arg Leu Cys Glu 930 935 940
- Gly Leu Arg His Pro Ala Cys Lys Leu Ile Arg Leu Gly Leu Asp Gln 945 950 955 960
- Thr Thr Leu Ser Asp Glu Met Arg Gln Glu Leu Arg Ala Leu Glu Gln 965 970 975
- Glu Lys Pro Gln Leu Leu Ile Phe Ser Arg Arg Lys Pro Ser Val Met 980 985 990
- Thr Pro Thr Glu Gly Leu Asp Thr Gly Glu Met Ser Asn Ser Thr Ser 995 1000 1005
- Ser Leu Lys Arg Gln Arg Leu Gly Ser Glu Arg Ala Ala Ser His Val 1010 1015 1020
- Ala Gln Ala Asn Leu Lys Leu Leu Asp Val Ser Lys Ile Phe Pro Ile 1025 1030 1035 1040
- Ala Glu Ile Ala Glu Glu Ser Ser Pro Glu Val Val Pro Val Glu Leu 1045 1050 1055
- Leu Cys Val Pro Ser Pro Ala Ser Gln Gly Asp Leu His Thr Lys Pro 1060 1065 1070
- Leu Gly Thr Asp Asp Asp Phe Leu Gly Pro Glu Gly Asn Val Asp Val
 1075 1080 1085
- Glu Leu Ile Asp Lys Ser Thr Asn Arg Tyr Ser Val Trp Phe Pro Thr 1090 1095 1100
- Ala Gly Trp Tyr Leu Trp Ser Ala Thr Gly Leu Gly Phe Leu Val Arg 1105 1110 1115 1120
- Asp Glu Val Thr Val Thr Ile Ala Phe Gly Ser Trp Ser Gln His Leu 1125 1130 1135
- Ala Leu Asp Leu Gln His His Glu Gln Trp Leu Val Gly Gly Pro Leu 1140 1145 1150
- Phe Asp Val Thr Ala Glu Pro Glu Glu Ala Val Ala Glu Ile His Leu

1155	1160	1165

- Pro His Phe Ile Ser Leu Gln Gly Glu Val Asp Val Ser Trp Phe Leu 1170 1175 1180
- Val Ala His Phe Lys Asn Glu Gly Met Val Leu Glu His Pro Ala Arg 1185 1190 1195 1200
- Val Glu Pro Phe Tyr Ala Val Leu Glu Ser Pro Ser Phe Ser Leu Met 1205 1210 1215
- Gly Ile Leu Leu Arg Ile Ala Ser Gly Thr Arg Leu Ser Ile Pro Ile 1220 1225 1230
- Thr Ser Asn Thr Leu Ile Tyr Tyr His Pro His Pro Glu Asp Ile Lys 1235 1240 1245
- Phe His Leu Tyr Leu Val Pro Ser Asp Ala Leu Leu Thr Lys Ala Ile 1250 1255 1260
- Asp Asp Glu Glu Asp Arg Phe His Gly Val Arg Leu Gln Thr Ser Pro 1265 1270 1275 1280
- Pro Met Glu Pro Leu Asn Phe Gly Ser Ser Tyr Ile Val Ser Asn Ser 1285 1290 1295
- Ala Asn Leu Lys Val Met Pro Lys Glu Leu Lys Leu Ser Tyr Arg Ser 1300 1305 1310
- Pro Gly Glu Ile Gln His Phe Ser Lys Phe Tyr Ala Gly Gln Met Lys 1315 1320 1325
- Glu Pro Ile Gln Leu Glu Ile Thr Glu Lys Arg His Gly Thr Leu Val 1330 1335 1340
- Trp Asp Thr Glu Val Lys Pro Val Asp Leu Gln Leu Val Ala Ala Ser 1345 1350 1355 1360
- Ala Pro Pro Pro Phe Ser Gly Ala Ala Phe Val Lys Glu Asn His Arg 1365 1370 1375
- Gln Leu Gln Ala Arg Met Gly Asp Leu Lys Gly Val Leu Asp Asp Leu 1380 1385 1390
- Gln Asp Asn Glu Val Leu Thr Glu Asn Glu Lys Glu Leu Val Glu Gln 1395 1400 1405
- Glu Lys Thr Arg Gln Ser Lys Asn Glu Ala Leu Leu Ser Met Val Glu

1410 1415 1420

Lys Lys Gly Asp Leu Ala Leu Asp Val Leu Phe Arg Ser Ile Ser Glu 1425 1430 1435 1440

Arg Asp Pro Tyr Leu Val Ser Tyr Leu Arg Gln Gln Asn Leu 1445 1450

<210> 11

<211> 4466

<212> DNA

<213> Artificial Sequence

<220>

<221> CDS

<222> (1)..(4272)

<220>

<223> Description of Artificial Sequence: Synthetic Construct

<400> 11

atg gct ggc gga gcc tgg ggc cgc ctg gcc tgt tac ttg gag ttc ctg 48

Met Ala Gly Gly Ala Trp Gly Arg Leu Ala Cys Tyr Leu Glu Phe Leu

1 10 15

aag aag gag gag ctg aag gag ttc cag ctt ctg ctc gcc aat aaa gcg 96 Lys Lys Glu Glu Leu Lys Glu Phe Gln Leu Leu Leu Ala Asn Lys Ala 20 25 30

cac tcc agg agc tct tcg ggt gag aca ccc gct cag cca gag aag acg $\,$ 144 His Ser Arg Ser Ser Ser Gly Glu Thr Pro Ala Gln Pro Glu Lys Thr $\,$ 35 $\,$ 40 $\,$ 45

agt ggc atg gag gtg gcc tcg tac ctg gtg gct cag tat ggg gag cag 192 Ser Gly Met Glu Val Ala Ser Tyr Leu Val Ala Gln Tyr Gly Glu Gln 50 55 60

cgg gcc tgg gac cta gcc ctc cat acc tgg gag cag atg ggg ctg agg 240 Arg Ala Trp Asp Leu Ala Leu His Thr Trp Glu Gln Met Gly Leu Arg 65 70 75 80

tca ctg tgc gcc caa gcc cag gaa ggg gca ggc cac tct ccc tca ttc 288 Ser Leu Cys Ala Gln Ala Gln Glu Gly Ala Gly His Ser Pro Ser Phe 85 90 95

		-		-						ccc Pro				336
		_			_					ttg Leu				384
	-				_		_			ctg Leu 140				432
	_			_	_		_	-		ctc Leu		-		480
	-			_						gag Glu				528
				_	-	_		_		tcc Ser				576
-		_		_		_		-		acc Thr			_	624
_	-	_								aga Arg 220				672
									 _	gcg Ala	 _		-	720
		_				-		_		cac His				768
			_		_		_		, ,	ccc Pro				816
_							_	_		cta Leu	_			864

	_	_		_	ccc Pro	_	-	_	_	_			-			912
			_		cat His 310											960
	_	_			gaa Glu		_		_		_	_		_	_	1008
			_		aca Thr	-	-		-		_	_				1056
_		_	_		Gly											1104
_	_		_	_	cag Gln		_			_						1152
					gcc Ala 390											1200
				_	ctc Leu				-		-	-				1248
	-	_	_		ccg Pro	_				-	_			-	_	1296
	_	_	-	_	gca Ala	_	_		_		_					1344
			_		ttc Phe	_										1392
					ttg Leu 470											1440

		, ,		_		_	-	tat Tyr			_				-	1488
-			_		_	_		agg Arg 505								1536
		-	_	_				tgg Trp				_	-	_		1584
_	_	_	_	_	_	_		aag Lys	_							1632
-						_		cat His			-	_	-			1680
-	_		_			_		aga Arg	-		-		_	-	-	1728
						_		ctt Leu 585		_		_	_			1776
_		222		-	2 3 3	_		atc Ile				_	_	_		1824
								ctg Leu	_		_					1872
_						_	_	atg Met			_	_		_		1920
_		_						tgc Cys			-	_	-	_	_	1968
	_							ctg Leu 665			_					2016

		_		_	tta Leu											2064
			_		ctg Leu											2112
					ctg Leu 710											2160
_	_				cgg Arg			-		-				_	-	2208
		_	_	_	ggc Gly	_	_	_	_		_					2256
	_			-	att Ile			_	_			_	_		-	2304
					cag Gln		_				_			_	_	2352
_	_				gtc Val 790		-		-	-			_			2400
		_		_	gtc Val		-		_	_		_	_		-	2448
-		_	_	_	cac His		_	-		_			-			2496
					ctc Leu											2544
		_		-	tgc Cys	_	-		-			-	-	-		2592

_		_			ctg Leu 870	-	_	_					_	_	-	2640
	_				tgc Cys	_	_	_	-	_	_	_	_	-		2688
					gtc Val											2736
_	_	_			ctt Leu	-	-	-		_	_	_			-	2784
_	_	_			ctg Leu	_	_	_			_					2832
					gcc Ala 950											2880
	_				gag Glu		_	_	-			_	_		_	2928
				_	cgg Arg	_	_							-		2976
	_	_	_	_	aat Asn	Leu			-	-	Val	-	-			3024
Pro		_			gca Ala 1		_	_		Pro	-	-	-			3072
	Leu			Val	cct Pro 1030				Ser					His		3120
			Gly		gac Asp			Phe					Gly			3168

·	u Ile Asp Lys		c aga tac agc g n Arg Tyr Ser Va 10°	al Trp Phe	16
			c aca ggc ctc gg a Thr Gly Leu G 1085		54
, ,, ,		Thr Ile Ala	g ttt ggt tcc to a Phe Gly Ser Ti 1100		12
		_	a cag tgg ctg gt 1 Gln Trp Leu Va 1115		50
	•		g gag gct gtc go 1 Glu Ala Val Al))8
	s Phe Ile Ser		gag gtg gac gt Glu Val Asp Va 115	al Ser Trp	56
, ,	a His Phe Lys	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	g atg gtc ctg ga 7 Met Val Leu Gl 1165	-)4
			g gaa agc ccc ag n Glu Ser Pro Se 1180		52
			ggg act cgc ct Gly Thr Arg Le)0
	_		cac ccc cac cc His Pro His Pr		8
	s Leu Tyr Leu		gac gcc ttg ct Asp Ala Leu Le 123	u Thr Lys)6
	o Glu Glu Asp	_	ggt gtg cgc ct Gly Val Arg Le 1245		: 4

-	-		cc agt tat att gtg er Ser Tyr Ile Val 1260	
7	5		ag ttg aaa ttg tcc lu Leu Lys Leu Ser 75	
Arg Ser Pro Gly	-		aa ttc tat gct ggg ys Phe Tyr Ala Gly 1295	_
A .			aa aaa aga cat ggg lu Lys Arg His Gly 1310	_
2 2 2 2 2	Thr Glu Val	3 3 3	at ctc cag ctt gta sp Leu Gln Leu Val 1325	~
2		22 2 2	cc ttt gtg aag gag la Phe Val Lys Glu 1340	
			tg aaa ggg gtg ctc eu Lys Gly Val Leu 55	-
Asp Leu Gln Asp	2 2 2		at gag aag gag ctg sn Glu Lys Glu Leu 1375	, ,
			ag gcc ttg ctg agc lu Ala Leu Leu Ser 1390	-
	Gly Asp Leu	-	tg ctc ttc aga agc al Leu Phe Arg Ser 1405	
			tt aga cag cag aat eu Arg Gln Gln Asn 1420	-
taaaatgagt cagtt	aggta gtctgg	aaga gagaatcc	ag cgttctcatt ggaaa	itggat 4332
aaacagaaat gtgat	cattg atttca	gtgt tcaagacag	ga agaagactgg gtaac	atcta 4392

tcacacaggc tttcaggaca gacttgtaac ctggcatgta cctattgact gtatcctcat 4452 gcattttcct caag 4466

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<213	l> 1	124													
<212	<212> PRT														
<213	<213> Artificial Sequence														
<223	<223> Description of Artificial Sequence: Synthetic Construct														
< 400)> 12	2													
Met 1	Ala	Gly	Gly	Ala 5	Trp	Gly	Arg	Leu	Ala 10	Cys	Tyr	Leu	Glu	Phe 15	Leu
_				_											
Lys	Lys	Glu	Glu 20	Leu	Lys	Glu	Phe	Gln 25	Leu	Leu	Leu	Ala	Asn 30	Lys	Ala
His	Ser	Arg	Ser	Ser	Ser	Gly	Glu	Thr	Pro	Ala	Gln	Pro	Glu	Lys	Thr
		35					40					45			
Ser	_	Met	Glu	Val	Ala		Tyr	Leu	Val	Ala		Tyr	Gly	Glu	Gln
	50					55					60				
Ara	Ala	Tro	Asp	Len	Ala	Leu	His	Thr	Trn	Glu	Gln	Met	Glv	Leu	Ara
65	1114	110	TIOP,	Leu	70	1300	1110	1111	110	75	0111	1100	OT y	200	80
Ser	Leu	Cys	Ala	Gln	Ala	Gln	Glu	Gly	Ala	Gly	His	Ser	Pro	Ser	Phe
				85					90					95	
Pro	Tyr	Ser		Ser	Glu	Pro	His	Leu	Gly	Ser	Pro	Ser	Gln	Pro	Thr
			100					105					110		
C	m	73.5	17 - 3	T	14 - ±	D	m .	T 3 .	11.5 -	G1	T	D	7.7	C1	G
ser	Tnr	A1a 115	vai	Leu	Met	Pro	120	TTE	HlS	GLU	Leu	125	Ата	стА	Cys
		113					120					125			
Thr	Gln	Glv	Ser	Glu	Arg	Ara	Val	Leu	Ara	Gln	Leu	Pro	Asp	Thr	Ser
	130	1			5	135			9		140				
Gly	Arg	Arg	Trp	Arg	Glu	Ile	Ser	Ala	Ser	Leu	Leu	Tyr	Gln	Ala	Leu
145					150					155					160

Pro Thr Ser Thr Ala Val Leu Gly Ser Trp Gly Ser Pro Pro Gln Pro 180 185 190

Pro Ser Ser Pro Asp His Glu Ser Pro Ser Gln Glu Ser Pro Asn Ala

170

Ser	Leu	Ala 195	Pro	Arg	Glu	Gln	Glu 200	Ala	Pro	Gly	Thr	Gln 205	Trp	Pro	Leu
Asp	Glu 210	Thr	Ser	Gly	Ile	Tyr 215	Tyr	Thr	Glu	Ile	Arg 220	Glu	Arg	Glu	Arg
Glu 225	Lys	Ser	Glu	Lys	Gly 230	Arg	Pro	Pro	Trp	Ala 235	Ala	Val	Val	Gly	Thr 240
Pro	Pro	Gln	Ala	His 245	Thr	Ser	Leu	Gln	Pro 250	His	His	His	Pro	Trp 255	Glu
Pro	Ser	`Val	Arg 260	Glu	Ser	Leu	Čys	Ser 265	Thr	Trp	Pro	Trp	Lys 270	Asn	Glu
Asp	Phe	Asn 275	Gln	Lys	Phe	Thr	Gln 280	Leu	Leu	Leu	Leu	Gln 285	Arg	Pro	His
Pro	Arg 290	Ser	Gln	Asp	Pro	Leu 295	Val	Lys	Arg	Ser	Trp 300	Pro	Asp	Tyr	Val
Glu 305	Glu	Asn	Arg	Gly	His 310	Leu	Ile	Glu	Ile	Arg 315	Asp	Leu	Phe	Gly	Pro 320
Gly	Leu	Asp	Thr	Gln 325	Glu	Pro	Arg	Ile	Val 330	Ile	Leu	Gln	Gly	Ala 335	Ala
Gly	Ile	Gly	Lys 340	Ser	Thr	Leu	Ala	Arg 345	Gln	Val	Lys	Glu	Ala 350	Trp	Gly
Arg	Gly	Gln 355	Leu	Tyr	Gly	Asp	Arg 360	Phe	Gln	His	Val	Phe 365	Tyr	Phe	Ser
Cys	Arg 370	Glu	Leu	Ala	Gln	Ser 375	Lys	Val	Val	Ser	Leu 380	Ala	Glu	Leu	Ile
Gly 385	Lys	Asp	Gly	Thr	Ala 390	Thr	Pro	Ala	Pro	Ile 395	Arg	Gln	Ile	Leu	Ser 400
Arg	Pro	Glu	Arg	Leu 405	Leu	Phe	Ile	Leu	Asp 410	Gly	Val	Asp	Glu	Pro 415	Gly
Trp	Val	Leu	Gln 420	Glu	Pro	Ser	Ser	Glu 425	Leu	Cys	Leu	His	Trp 430	Ser	Gln
Pro	Gln	Pro 435	Ala	Asp	Ala	Leu	Leu 440	Gly	Ser	Leu	Leu	Gly 445	Lys	Thr	Ile

Leu	Pro 450	Glu	Ala	Ser	Phe	Leu 455	Ile	Thr	Ala	Arg	Thr 460	Thr	Ala	Leu	Gln
Asn 465	Leu	Ile	Pro	Ser	Leu 470	Glu	Gln	Ala	Arg	Trp 475	Val	Glu	Val	Leu	Gly 480
Phe	Ser	Glu	Ser	Ser 485	Arg	Lys	Glu	Tyr	Phe 490	Tyr	Arg	Tyr	Phe	Thr 495	Asp
Glu	Arg	Gln	Ala 500	Ile	Arg	Ala	Phe	Arg 505	Leu	Val	Lys	Ser	Asn 510	Lys	Glu
Leu	Trp	Ala 515	Leu	Cys	Leu	Val	Pro	Trp	Val	Ser	Trp	Leu 525	Äla	Cys	Thr
Cys	Leu 530	Met	Gln	Gln	Met	Lys 535	Arg	Lys	Glu	Lys	Leu 540	Thr	Leu	Thr	Ser
Lys 545	Thr	Thr	Thr	Thr	Leu 550	Cys	Leu	His	Tyr	Leu 555	Ala	Gln	Ala	Leu	Gln 560
Ala	Gln	Pro	Leu	Gly 565	Pro	Gln	Leu	Arg	Asp 570	Leu	Cys	Ser	Leu	Ala 575	Ala
Glu	Gly	Ile	Trp 580	Gln	Lys	Lys	Thr	Leu 585	Phe	Ser	Pro	Asp	Asp 590	Leu	Arg
Lys	His	Gly 595	Leu	Asp	Gly	Ala	Ile 600	Ile	Ser	Thr	Phe	Leu 605	Lys	Met	Gly
Ile	Leu 610	Gln	Glu	His	Pro	Ile 615	Pro	Leu	Ser	Tyr	Ser 620	Phe	Ile	His	Leu
Cys 625	Phe	Gln	Glu	Phe	Phe 630	Ala	Ala	Met	Ser	Tyr 635	Val	Leu	Glu	Asp	Glu 640
Lys	Gly	Arg	Gly	Lys 645	His	Ser	Asn	Cys	Ile 650	Ile	Asp	Leu	Glu	Lys 655	Thr
Leu	Glu	Ala	Tyr 660	Gly	Ile	His	Gly	Leu 665	Phe	Gly	Ala	Ser	Thr 670	Thr	Arg
Phe	Leu	Leu 675	Gly	Leu	Leu	Ser	Asp 680	Glu	Gly	Glu	Arg	Glu 685	Met	Glu	Asn
Ile	Phe 690	His	Cys	Arg	Leu	Ser 695	Gln	Gly	Arg	Asn	Leu 700	Met	Gln	Trp	Val

Pro 705	Ser	Leu	Gln	Leu	Leu 710	Leu	Gln	Pro	His	Ser 715	Leu	Glu	Ser	Leu	His 720
Cys	Leu	Tyr	Glu	Thr 725	Arg	Asn	Lys	Thr	Phe 730	Leu	Thr	Gln	Val	Met 735	Ala
His	Phe	Glu	Glu 740	Met	Gly	Met	Cys	Val 745	Glu	Thr	Asp	Met	Glu 750	Leu	Leu
Val	Cys	Thr 755	Phe	Cys	Ile	Lys	Phe 760	Ser	Arg	His	Val	Lys 765	Lys	Leu	Gln
Leu	Ile 770	Glu	Gly	Arg	Gln	His 775	Arg	Ser	Thr	Trp	Ser 780	Pro	Thr	Met	Val
Val 785	Leu	Phe	Arg	Trp	Val 790	Pro	Val	Thr	Asp	Ala 795	Tyr	Trp	Gln	Ile	Leu 800
Phe	Ser	Val	Leu	Lys 805	Val	Thr	Arg	Asn	Leu 810	Lys	Glu	Leu	Asp	Leu 815	Ser
Gly	Asn	Ser	Leu 820	Ser	His	Ser	Ala	Val 825	Lys	Ser	Leu	Cys	Lys 830	Thr	Leu
Arg	Arg	Pro 835	Arg	Cys	Leu	Leu	Glu 840	Thr	Leu	Arg	Leu	Ala 845	Gly	Cys	Gly
Leu	Thr 850	Ala	Glu	Asp	Cys	Lys 855	Asp	Leu	Ala	Phe	Gly 860	Leu	Arg	Ala	Asn
Gln 865	Thr	Leu	Thr	Glu	Leu 870	Asp	Leu	Ser	Phe	Asn 875	Val	Leu	Thr	Asp	Ala 880
Gly	Ala	Lys	His	Leu 885	Cys	Gln	Arg	Leu	Arg 890	Gln	Pro	Ser	Cys	Lys 895	Leu
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Asp	Leu	Ala 915	Ser	Val	Leu	Ser	Ala 920	Ser	Pro	Ser	Leu	Lys 925	Glu	Leu	Asp
Leu	Gln 930	Gln	Asn	Asn	Leu	Asp 935	Asp	Val	Gly	Val	Arg 940	Leu	Leu	Cys	Glu
Gly 945	Leu	Arg	His	Pro	Ala 950	Cys	Lys	Leu	Ile	Arg 955	Leu	Gly	Lys	Pro	Ser 960

- Val Met Thr Pro Thr Glu Gly Leu Asp Thr Gly Glu Met Ser Asn Ser 965 970 975
- Thr Ser Ser Leu Lys Arg Gln Arg Leu Gly Ser Glu Arg Ala Ala Ser 980 985 990
- His Val Ala Gln Ala Asn Leu Lys Leu Leu Asp Val Ser Lys Ile Phe 995 1000 1005
- Pro Ile Ala Glu Ile Ala Glu Glu Ser Ser Pro Glu Val Val Pro Val 1010 1015 1020
- Glu Leu Leu Cys Val Pro Ser Pro Ala Ser Gln Gly Asp Leu His Thr 1025 1030 1035 1040
- Lys Pro Leu Gly Thr Asp Asp Phe Leu Gly Pro Glu Gly Asn Val 1045 1050 1055
- Asp Val Glu Leu Ile Asp Lys Ser Thr Asn Arg Tyr Ser Val Trp Phe 1060 1065 1070
- Pro Thr Ala Gly Trp Tyr Leu Trp Ser Ala Thr Gly Leu Gly Phe Leu 1075 1080 1085
- Val Arg Asp Glu Val Thr Val Thr Ile Ala Phe Gly Ser Trp Ser Gln 1090 1095 1100
- His Leu Ala Leu Asp Leu Gln His His Glu Gln Trp Leu Val Gly Gly 1105 1110 1115 1120
- Pro Leu Phe Asp Val Thr Ala Glu Pro Glu Glu Ala Val Ala Glu Ile 1125 1130 1135
- His Leu Pro His Phe Ile Ser Leu Gln Gly Glu Val Asp Val Ser Trp 1140 1145 1150
- Phe Leu Val Ala His Phe Lys Asn Glu Gly Met Val Leu Glu His Pro 1155 1160 1165
- Ala Arg Val Glu Pro Phe Tyr Ala Val Leu Glu Ser Pro Ser Phe Ser 1170 1175 1180
- Leu Met Gly Ile Leu Leu Arg Ile Ala Ser Gly Thr Arg Leu Ser Ile 1185 1190 1195 1200
- Pro Ile Thr Ser Asn Thr Leu Ile Tyr Tyr His Pro His Pro Glu Asp 1205 1210 1215

Ile Lys Phe His Leu Tyr Leu Val Pro Ser Asp Ala Leu Leu Thr Lys 1220 1225 1230

Ala Ile Asp Asp Glu Glu Asp Arg Phe His Gly Val Arg Leu Gln Thr 1235 1240 1245

Ser Pro Pro Met Glu Pro Leu Asn Phe Gly Ser Ser Tyr Ile Val Ser 1250 1255 1260

Asn Ser Ala Asn Leu Lys Val Met Pro Lys Glu Leu Lys Leu Ser Tyr 1265 1270 1275 1280

Arg Ser Pro Gly Glu Ile Gln His Phe Ser Lys Phe Tyr Ala Gly Gln
1285 1290 1295

Met Lys Glu Pro Ile Gln Leu Glu Ile Thr Glu Lys Arg His Gly Thr
1300 1305 1310

Leu Val Trp Asp Thr Glu Val Lys Pro Val Asp Leu Gln Leu Val Ala 1315 1320 1325

Ala Ser Ala Pro Pro Pro Phe Ser Gly Ala Ala Phe Val Lys Glu Asn 1330 1335 1340

His Arg Gln Leu Gln Ala Arg Met Gly Asp Leu Lys Gly Val Leu Asp 1345 1350 1355 1360

Asp Leu Gln Asp Asn Glu Val Leu Thr Glu Asn Glu Lys Glu Leu Val 1365 1370 1375

Glu Gl
n Glu Lys Thr Arg Gl
n Ser Lys Asn Glu Ala Leu Leu Ser Met 1380 1385 1390

Val Glu Lys Lys Gly Asp Leu Ala Leu Asp Val Leu Phe Arg Ser Ile 1395 1400 1405

Ser Glu Arg Asp Pro Tyr Leu Val Ser Tyr Leu Arg Gln Gln Asn Leu 1410 1415 1420

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